

PARTICIPATION COMMENTS FOR THE NOTICE DATED MARCH 18, 2008
Written comments are to be sent to the above address.

WRITTEN COMMENT DEADLINE: MAY 12, 2008

Date: May 9, 2008

From: Shawn Martin

Name (Print or type)

Plumbing Manufacturers Institute (PMI)
Agency, jurisdiction, chapter, company, association, individual, etc.

1921 Rohlwing Road Rolling Meadows IL 60008
Street City State Zip

I/We ☐ (do) ☒ (do not) agree with:

The Agency proposed modifications As Submitted on Section No. Section 603.2 & Table 603.2

and request that this section or reference provision be recommended:

☐ Approved ☐ Disapproved ☐ Held for Further Study ☒ Approved as Amended

to the proposing state agency.

Suggested Revisions to the Text of the Regulations:

603.2 20% Savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building shall be provided. The reduction shall be based on the maximum allowable water use per plumbing fixture and fittings as required by the California Building Standards Code. The reduction in potable water use shall be demonstrated by one of the following methods.

1. Each plumbing fixture and fitting shall meet the reduced flow rate specified in Table 603.2; or
2. A calculation demonstrating a 20% reduction in the building "water use" baseline as established in Table 603.1 shall be provided. For low-rise residential occupancies, the calculation shall be limited to the following plumbing fixture and fitting types: water closets, urinals, lavatory faucets, showerheads and kitchen faucets.

**TABLE 603.2
FIXTURE FLOW RATES**

Fixture Type	Flow-rate	Maximum flow rate
Showerheads	2.5 gpm @ 80 psi	WaterSense Low-Flow Showerhead Specification (when available)
Lavatory Faucets		
Residential	2.2 gpm @ 60 psi	WaterSense High-Efficiency Lavatory Faucet Specification
Kitchen Faucets	2.2 gpm @ 60 psi	2.2 gpm @ 60 psi
Wash Fountains	2.2 [rim space(in.) / 20	1.8 (rim space(20 in.)) gpm @ 60 psi
Metering Faucets	0.25 gallons/cycle	0.25 gallons/cycle

Metering Faucets for Wash Fountains	.25 [rim space(in.) / 20 gpm @ 60 psi] 1.8 (rim space(20 in.)) gpm @ 60 psi	
Gravity tank type Water Closets	1.6 gallons/flush	1.28 gallons/flush
Flushometer Tank Water Closets	1.6 gallons/flush	1.28 gallons/flush
Flushometer Valve Water Closets	1.6 gallons/flush	1.28 gallons/flush
Electromechanical Hydraulic Water Closets	1.6 gallons/flush	1.28 gallons/flush
Blowout Water Closets	3.5 gallons/flush	2.8 gallons/flush
Urinals	1.0 gallons/flush WaterSense High-Efficiency Urinal Specification (when available)	

Reason: [The reason should be concise. If the request is for "Disapproval," "Further Study," or "Approve As Amend", identify at least one of the 9-point criteria (following) of Health and Safety Code §18930.]

Per item 4 in the Health and Safety Code, Section 18930a, the maximum fixture flows proposed under Table 603.2 for the newly created Section 603.2 of the California Building Code, 2007 edition are unreasonable, arbitrary, and unfair; and could endanger public health and safety. While PMI concurs entirely with the goal of reducing water consumption of plumbing fixtures, it objects to the maximum consumption values presented in Table 603.2 for the prescriptive, fixture based approach of option 1 under 603.2.

Option 2 under 603.2 provides a more robust, less design restrictive approach to achieving water conservation goals that allows the designer to account for the individual constraints and preferences of each project. This approach alone would be preferable, eliminating the first option. If, however, a prescriptive option is to be offered, the maximum water consumption values specified should be based on the unique considerations of each device. The current approach applies a blanket 20% reduction to each device, regardless of the impact on the effectiveness of the device. PMI is committed to reductions in water consumption that preserve the effective performance of each device, and therefore requests the following changes to Table 603.2 based on the unique attributes and use of each device.

Showerheads: Showers have proven to be a remarkably complex area for future water consumption reductions. Current standards for shower valves only require that temperature compensating features, required by code, function as prescribed at the current federal maximum of 2.5 gpm. As a result the temperature compensation in some shower valves on the market does not function effectively at flows below 2.5 gpm. This increases the risk of scalding and thermal shock (which can result in injuries from falls), when a low-flow showerhead is used with a valve not designed to function at the lower flow rate. A Task Group from the American Society of Mechanical Engineers (ASME) and Canadian Standards Association (CSA) has been working with the EPA WaterSense program to address this issue and develop a WaterSense specification for low-flow showerheads. The group is working to address this risk in WaterSense's specification, and develop tests to ensure that WaterSense low-flow showerheads provide high levels of performance. This specification is to be completed in late 2008 or early 2009. Like the state of California, WaterSense has a goal of reducing water consumption by 20%. Given the health, safety, and performance issues associated with these showerheads, PMI urges California to delay action on showerheads until the WaterSense specification is completed. The standard should then require the use of WaterSense certified low-flow showerheads. This is the best way to ensure that the performance of the devices is maintained, and health and safety is protected.

Residential Lavatory Faucets: The EPA WaterSense program released a High Efficiency Lavatory Faucet Specification in October, 2007. It calls for maximum flowrates of 1.5 gpm at 60 psi, and minimum flows of 0.8 gpm at 20 psi. The two-level requirement ensures that adequate performance is maintained at low flows. To date, WaterSense has listed a total of 37 faucets meeting the specification, on its website at http://www.epa.gov/watersense/pp/lists/find_faucet.htm. Third-party certification is required to demonstrate compliance. PMI recommends the use of the WaterSense specification as the basis for reduced flow lavatory faucet levels. It provides for even greater water conservation, protects performance, and utilizes an established certification program.

Kitchen Faucets: The EPA WaterSense program has studied the potential for water savings available from reduced-flow kitchen faucets. Kitchen faucets are frequently used for a wide range of activities, many of which involve the filling of receptacles. Reduced flow kitchen faucets would not result in water savings for these operations, instead, they would dramatically increase the filling time. Likewise, the time spent waiting for hot water

to arrive at the faucet would also be increased. While some water savings can be achieved for the rinsing operations at the sink, the amount saved would not be significant. Furthermore, reduced flow aerators are not available for many kitchen faucet designs, some of which utilize multiple modes for multiple operations. As a result, WaterSense and many other green building programs, have chosen not to call for reduced-flow kitchen faucets. PMI supports this conclusion, and recommends that the flowrate for kitchen faucets remain 2.2 gpm at 60 psi. Increased water savings from the use of WaterSense lavatory faucets will offset and exceed any savings from kitchen faucets in many circumstances.

Metering Faucets: These fixture fittings dispense a prescribed amount of water for handwashing. While many of these devices allow for adjustment of the volume, many customers have indicated that volumes less than 0.25 gallons are insufficient to adequately wash. PMI is concerned that water use may actually increase if consumers find it necessary to actuate the valves more than once for each attempt to wash hands. Furthermore, very few of these faucets are used in residential applications. PMI recommends that the maximum volume per cycle for metering faucets remain at 0.25 gallons.

Urinals: The WaterSense program is currently developing a specification for High-Efficiency Urinals. As stated in their Notice of Intent, the maximum flowrate is expected to be 0.5 gallons per flush (gpf). As with other devices, PMI requests that the state of California utilize this specification when completed. Water savings will be greater than that realized with 0.8 gpf, and the program will ensure high performance is maintained.

HEALTH & SAFETY CODE SECTION 18930

SECTION 18930. APPROVAL OR ADOPTION OF BUILDING STANDARDS; ANALYSIS AND CRITERIA; REVIEW CONSIDERATIONS; FACTUAL DETERMINATIONS

- (a) Any building standard adopted or proposed by state agencies shall be submitted to, and approved or adopted by, the California Building Standards Commission prior to codification. Prior to submission to the commission, building standards shall be adopted in compliance with the procedures specified in Article 5 (commencing with Section 11346) of Chapter 3.5 of Part 1 of Division 3 of Title 2 of the Government Code. Building standards adopted by state agencies and submitted to the commission for approval shall be accompanied by an analysis written by the adopting agency or state agency that proposes the building standards which shall, to the satisfaction of the commission, justify the approval thereof in terms of the following criteria:
 - (1) The proposed building standards do not conflict with, overlap, or duplicate other building standards.
 - (2) The proposed building standard is within the parameters established by enabling legislation and is not expressly within the exclusive jurisdiction of another agency.
 - (3) The public interest requires the adoption of the building standards.
 - (4) The proposed building standard is not unreasonable, arbitrary, unfair, or capricious, in whole or in part.
 - (5) The cost to the public is reasonable, based on the overall benefit to be derived from the building standards.
 - (6) The proposed building standard is not unnecessarily ambiguous or vague, in whole or in part.
 - (7) The applicable national specifications, published standards, and model codes have been incorporated therein as provided in this part, where appropriate.
 - (A) If a national specification, published standard, or model code does not adequately address the goals of the state agency, a statement defining the inadequacy shall accompany the proposed building standard when submitted to the commission.
 - (B) If there is no national specification, published standard, or model code that is relevant to the proposed building standard, the state agency shall prepare a statement informing the commission and submit that statement with the proposed building standard.
 - (8) The format of the proposed building standards is consistent with that adopted by the commission.
 - (9) The proposed building standard, if it promotes fire and panic safety as determined by the State Fire Marshal, has the written approval of the State Fire Marshal.